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10/073,695

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Uttam Shyamalindu Ghoshal

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11/24/2003

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EXAMINER

KIELIN, ERIK J

ART UNIT

PAPER NUMBER

2813

DATE MAILED: 11/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/073,695

Applicant(s)

GHOSHAL ET AL.

Examiner

Erik Kielin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-27 is/are pending in the application.
- 4a) Of the above claim(s) none is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-19 is/are allowed.
- 6) ☒ Claim(s) 20-23, 26 and 27 is/are rejected.
- 7) ☒ Claim(s) 24 and 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This action responds to the Amendment filed 18 September 2003 (Paper no. 10).

Response to Amendment

The rejection of claims 12-27 under 35 USC 112(2) are withdrawn because Applicant has created estoppel by equating the metal layer and the pointed tip structures formed therefrom in the body of the claim to the "metal electrode pointed tips" recited in the claim preamble. (See Amendment filed 18 September 2003 [Paper no. 10], pp. 4-5.)

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 20, 21, 26, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 55-119176 (**Hashimoto**).

Regarding claim 20, **Hashimoto** discloses a system for forming pointed metal tips comprising,

a means for forming a mask of patterned photoresist 4 onto a layer of metal 1 wherein the photoresist forms an array of photoresist areas that correspond to areas for which tips of the substantially pointed tip structure of the metal are desired --as further limited by instant claim 21;

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a means for etching the layer of metal 1 in the presence of the photoresist mask 4 to produce substantially pointed tipped metal structures of metal 6 wherein the structures are "needle-like" and therefore are conical-shaped or pyramidal-shaped --as further limited by instant claims 26 and 27; and

a means for removing the photoresist. (See Abstract and Figs. 1-6.)

That the metal tips are electrodes of a thermoelectric device does not have patentable weight for the following reasons. MPEP 2114 states,

"APPARATUS CLAIMS MUST BE STRUCTURALLY DISTINGUISHABLE FROM THE PRIOR ART"

"While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997) (The absence of a disclosure in a prior art reference relating to function did not defeat the Board's finding of anticipation of claimed apparatus because the limitations at issue were found to be inherent in the prior art reference); see also *In re Swinehart*, 439 F.2d 210, 212-13, 169 USPQ 226, 228-29 (CCPA 1971); *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). "[A]pparatus claims cover what a device *is*, not what a device *does*." *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990) (emphasis in original)."

"MANNER OF OPERATING THE DEVICE DOES NOT DIFFERENTIATE APPARATUS CLAIM FROM THE PRIOR ART"

"A claim containing a 'recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus,' if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987) (The preamble of claim 1 recited that the apparatus was "for mixing flowing developer material" and the body of the claim recited "means for mixing ..., said mixing means being stationary and completely submerged in the developer material". The claim was rejected over a reference which taught all the structural limitations of the claim for the intended use of mixing flowing developer. However, the mixer was only partially submerged in the

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developer material. The Board held that the amount of submersion is immaterial to the structure of the mixer and thus the claim was properly rejected.).”

Also, MPEP 2115 states,

In *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967), an apparatus claim recited “[a] taping machine comprising a supporting structure, a brush attached to said supporting structure, said brush being formed with projecting bristles which terminate in free ends to collectively define a surface to which adhesive tape will detachably adhere, and means for providing relative motion between said brush and said supporting structure while said adhesive tape is adhered to said surface.” An obviousness rejection was made over a reference to Kienzle which taught a machine for perforating sheets. The court upheld the rejection stating that “the references in claim 1 to adhesive tape handling do not expressly or impliedly require any particular structure in addition to that of Kienzle.” The perforating device had the structure of the taping device as claimed, the difference was in the use of the device, and **“the manner or method in which such machine is to be utilized is not germane to the issue of patentability of the machine itself.”** (Emphasis added.)

3. Claims 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by **JP 10-146799**.

Regarding claim 20, **JP 10-146799** discloses a method of and system for forming pointed metal tips comprising,

a means for forming a mask of patterned photoresist 3, 5 onto a layer of metal 1, wherein the photoresist forms an array of photoresist areas that correspond to areas for which tips of the substantially pointed tip structure of the metal are desired --as further limited by instant claim 21;

a means for etching the layer of metal 1 in the presence of the photoresist mask 3, 5 to produce substantially pointed tipped metal structures of metal 2, 4; and

a means for removing the photoresist. (See Abstract and Figs. 1-4.)

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That the metal tips are electrodes of a thermoelectric device does not have patentable weight for the reasons indicate above as recited in MPEP 2114 and 2115.

4. Claims 20-23 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 57-207362 (**Shibata** et al.).

Regarding claim 20, **Shibata** discloses a system for forming pointed metal electrode tips comprising,

a means for forming a mask of patterned photoresist 7, 9 onto a layer of metal 8 --which may be copper --as further limited by instant claim 22-- wherein the photoresist forms an array of photoresist areas that correspond to areas for which tips of the substantially pointed tip structure of the metal are desired --as further limited by instant claim 22-- because plural elements are formed (section entitled, "Purpose");

a means for etching the layer of metal 8 in the presence of the photoresist mask 3, 5 to produce substantially pointed tipped metal structures of metal 8 which are conically shaped --as further limited by instant claim 26;

a means for removing the photoresist; and

a means for coating the pointed tipped metal structures 8 with a second metal 18 --as further limited by instant claim 23.

(See Abstract and Figs. 3, 4, and 8(a).)

That the metal tips are electrodes of a thermoelectric device does not have patentable weight for the reasons indicate above as recited in MPEP 2114 and 2115.

Response to Arguments

5. Applicant's arguments with respect to claims 20-27 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erik Kielin whose telephone number is 703-306-5980. The examiner can normally be reached on 9:00 - 19:30 on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr., can be reached at 703-308-4940. The fax phone numbers for the


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organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



Erik Kielin

Primary Examiner

November 22, 2003